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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,258	02/26/2004	Jaime Bayan	NSC1P295/P05886	9477

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EXAMINER
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DOAN, THERESA T

ART UNIT	PAPER NUMBER
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2814

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/08/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

## Office Action Summary

Application No.

10/789,258

Applicant(s)

BAYAN ET AL.

Examiner

Theresa T. Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2006.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-7, 9-13 and 16-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-7, 9-13 and 20-21 is/are allowed.
- 6) ☒ Claim(s) 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 18, 19 and 22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. The amendment filed on 11/21/06 has being acknowledged. By this amendment, claims 1, 8 and 14-15 are cancelled; Claims 2-7, 9-13 and 16-22 are pending in the application.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang (6,353,257) in view of Admitted Prior Art (APA).

Regarding claim 16, Huang (Fig. 4) discloses a substrate panel for use in semiconductor packaging, the substrate panel comprising: a lead frame (Fig. 1) having a top surface and a bottom surface, the lead frame including a device area, each device area having a plurality of contacts 114 (Fig. 3) arranged around a die attach pad 10, wherein each die attach pad 10 includes a die support surface 101 and a recessed ledge portion 103 that is lower than the die support surface and extends uniformly to an edge of the die attach pad 10 (Fig. 4), the lead frame is further configured so that the top surface of the die attach pad 101 and the top surfaces of the plurality of contacts 114 are substantially coplanar (see Fig. 3).

Huang discloses all the limitations as discussed above but does not disclose a plurality of device areas.

However, APA (Figs. 1A-1C) teaches a lead frame panel 101 having a top surface and a bottom surface, the lead frame panel including a plurality of device areas 105. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to form a plurality of device areas of Huang because the lead frame panel including a plurality of device areas is well known to form the plurality of chips, as taught by APA.

Regarding claim 17, Huang discloses that the peripheral recessed ledge portions 103 extend uniformly around all of the outer edge of the die attach pads 10 (See Fig. 4).

#### ***Allowable Subject Matter***

4. Claims 18-19 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose all the limitations recited in base claim 18. Specifically, the prior art of record fails to disclose a plurality of semiconductor dies are attached to the die support surface of each die attach pad using an adhesive layer, wherein a portion of each semiconductor die extends beyond an outer edge of its associated the die attach pad, wherein the ledge portion is configured to retain an amount of the adhesive.

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5. Claims 2-7, 9-13 and 20-21 are allowed.

The prior art of record fails to disclose all the limitations recited in base claims 2 and 9. Specifically, the prior art of record fails to disclose the top surface of the die attach pad is coplanar with top surfaces of the plurality of contacts; a plurality of semiconductor dies are attached to the die support surface of each die attach pad using an adhesive layer, wherein a portion of each semiconductor die extends beyond an outer edge of its associated the die attach pad, wherein the ledge portion is configured to retain an amount of the adhesive.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 2-7, 9-13 and 16-22 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Doan whose telephone number is (571) 272-1704. The examiner can normally be reached on Monday to Friday from 7:00AM - 3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WAEL FAHMY can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Theresa Doan  
January 26, 2007.